

1 17. The motor as claimed in claim 1, wherein the rotor is formed to be
eccentric to generate vibrations during rotation.

1 18. The motor as claimed in claim 7, wherein the rotor is formed to be
eccentric to generate vibrations during rotation.

1 19. The motor as claimed in claim 9, wherein the rotor is formed to be
eccentric to generate vibrations during rotation.

1 20. A method of manufacturing a brush type non-circular flat motor
2 comprising the steps of:

3 press-pressing a lead frame having a plurality of yoke plates continuously
4 installed at a predetermined pitch by a connection portion;

5 inserting the continuously installed yoke plates in an injection mold and
6 integrally molding a resin bracket;

7 detaching at least the connection portion of the yoke plates among the
8 respective connection portions;

9 installing the rotor at a fixed shaft to be capable of rotating; and
10 installing the case.

1 21. The method as claimed in claim 32, further comprising steps of:

2 fixing brushes to a resin bracket by a spot welding method, the brushes being
3 formed by continuously installing via a plurality of connection portions at the same
4 pitch as the predetermined pitch; and

5 installing a magnet at the yoke plate.

Abstract of the Disclosure

A non-circular flat motor in which terminal portions are installed at dead space and a manufacturing method thereof are disclosed. Since a flexible sheet type feeder terminal is not adopted, the motor can be easily held by a transferring apparatus and automatically mounted. Also, the feeder terminal has solderability and is easy to be reflow-soldered. A rotor and a housing supporting the rotor are formed to be non-circular when viewed in a plane. Feeder terminals or installation

terminals are arranged at corner portions at the side surfaces of the housing which are angled and using a circle as an inscribed circle. At least one feeder terminal of a high electric potential is insulated from the other portion. The corner portion is formed to be concave so that each of the terminals is prevented from protruding outward from the housing. Each of the terminals are bent to be easily reflow-soldered and exposed to the side of the housing.